

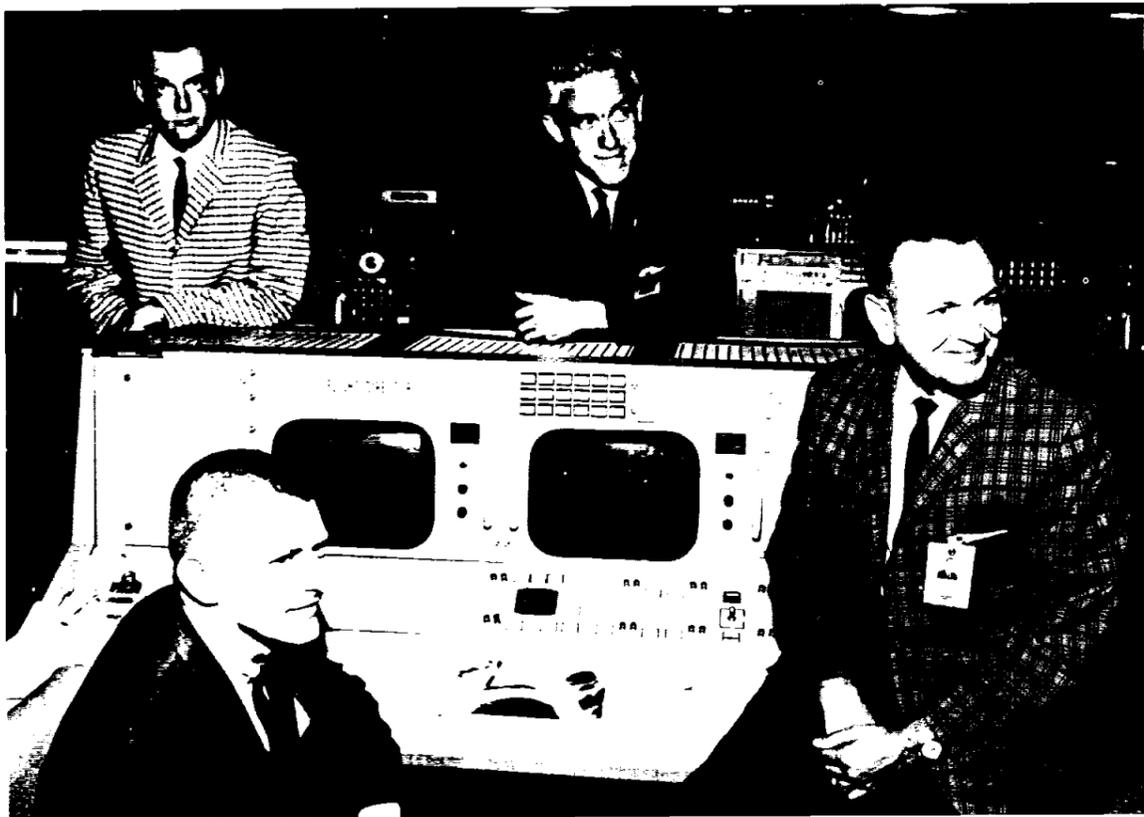
Space News **ROUNDUP!**

VOL. 4, NO. 13

MANNED SPACECRAFT CENTER, HOUSTON, TEXAS

APRIL 16, 1965

Future Gemini Flights To Be Controlled Here



FLIGHT DIRECTORS—At the flight directors console in the Mission Operations Control Room of the Mission Control Center are (left foreground and going clockwise) Flight Directors Eugene F. Kranz, Glynn S. Lunney, John D. Hodge, and Christopher C. Kraft.

Control of manned flight missions from the new Mission Control Center at the Manned Spacecraft Center in Houston will begin with the forthcoming Gemini Titan 4 flight.

Dr. George E. Mueller, NASA associate administrator for Manned Space Flight, announced the change of primary flight control from the Mission Control Center at Cape Kennedy to the Mission Control Center here.

The GT-4 flight is scheduled for the third quarter of this year.

Dr. Mueller said Christopher C. Kraft will serve as mission director for the four-day orbital mission. He was mission and flight director for GT-3, March 23.

The Houston Mission Control Center will be operated on a three shift basis with an approximate two-hour overlap between the shifts to insure smooth transition.

Kraft will also serve as one of the three flight directors, the other two being John D. Hodge and Eugene F. Kranz. Because of his dual role, Kraft will divide his time before launch between Cape Kennedy and the Control Center at Manned Spacecraft Center. He will return to Houston on the afternoon prior to launch and control the final hours of the countdown from MSC.

During the launch phase of the count, the Cape Kennedy Control Center will provide backup in trajectory and launch vehicle telemetry areas. NASA's Goddard Computer Center will follow control of the flight on a backup basis and will provide information directly to Cape Kennedy during the launch

phase.

Mueller said he was very pleased with performance from the Houston Control Center during the GT-3 mission. The Houston Center served as backup to Cape Kennedy for this flight.

Mueller said there are no major problems remaining in the transition from Cape Kennedy control. The last remaining major task involves linking the mission simulator at Cape Kennedy and the Houston Control Center. This will permit the crew to fly simulated missions at Cape Kennedy while being controlled from Houston—as would be done in a normal flight situation.

The Mission Control Center-Houston has four major functional systems—Displays and Control; Communications; Simulations, Checkout and Training (SCATS); and the Real Time Computer Complex (RTCC).

The MCC-H provides centralized control of manned spaceflight programs—including full mission control from launch through recovery. Technical management is provided in areas of vehicle systems, flight crew activities, recovery support and ground network support operations.

In addition to 384 high-resolution TV monitors in 140 control consoles, the center features an

(Continued on Page 7)

Docking, Extravehicular Activities To Be Part Of GTA-6 Mission

The GTA-6 mission which will perform rendezvous and docking maneuvers and extravehicular activities, will have as its prime crew Astronauts Walter M. Schirra Jr. and Thomas P. Stafford.

Checkout of the Mission Control Center while performing these activities in space along with proving the operational readiness of both vehicles (Gemini spacecraft and Agena vehicle) will also be among the prime objectives of the flight.

Roles of the astronauts in the GT-3 and GTA-6 flight will be reversed. Schirra and Stafford will serve as the prime crew and Astronauts Virgil I. (Gus) Grissom and John W. Young will be their backup crew.

At the press conference held last week for astronauts Schirra and Stafford (Grissom and Young were unable to attend because of other duties) a profile of the proposed mission was presented by Charles W. Mathews, manager of the Gemini Program Office.

He said that first the Agena would be launched and sent into a 161 nautical mile circular orbit. After the first orbit of the Agena

(about 90 minutes later) the Gemini-6 spacecraft will be launched with the attempted rendezvous and docking maneuver to take place on the third orbit of the spacecraft.

The rendezvous and docking maneuver will take place on the daylight side of the earth, prob-

ably in the vicinity of Hawaii, Mathews said. He further stated that docking could be performed at night but the decision had been made to have the rendezvous in the daylight.

In case a hold delays the *(Continued on Page 2)*



GT-6 PRIME CREW—Astronaut Thomas P. Stafford (left) and Walter M. Schirra Jr. were chosen as the pilot and command pilot respectively for the GT-6 flight. It is scheduled as the first rendezvous and docking mission and the first extravehicular mission. The backup crew for the GTA-6 mission will be Astronauts Virgil I. (Gus) Grissom and John W. Young.

April 26, Building 1 Auditorium

Ranger Photos' Significance Is Subject Of Symposium

"A Lunar Evening with Dr. Kuiper" will be the subject of the program scheduled for the MSC Technical Symposium April 26 in the Building 1 Auditorium.

Dr. Gerard P. Kuiper, director of the Lunar Planetary Laboratory, University of Arizona at Tuscon will conduct the program.

He is the principal experimenter for the recently successful series of Ranger probes that obtained closeup pictures of the lunar surface. Dr. Kuiper will discuss the significance of these pictures in relation to his study of the origin and composition of the moon.

All interested MSC and con-

tractor employees and company representatives that meet the security requirements for this type meeting are invited to attend this particular meeting. Admission to technical meetings requires a security clearance at the confidential level.

The two hour meeting which begins at 6:15 p.m., will be preceded by a dinner in the MSC Cafeteria.

MSC divisions are requested to transmit a list of attendees to Warren Gillespie Jr., meeting manager, by no later than April 21. The list should designate each person who will eat dinner at the cafeteria.

For additional information call Gillespie at Ext. 3711.

Science Congress Regional Finals Being Held At MSC This Week

Five mid- and southwestern states sent a total of 17 gifted high school students to the NASA Manned Spacecraft Center Thursday and Friday of this week to participate in the regional finals of a science congress which was hosted by the space agency.

The students were chosen from hundreds who participated

GT-4 Spacecraft Arrives At Cape Readied For Flight

The spacecraft for the Gemini-Titan-4 mission arrived at Cape Kennedy April 4 from McDonnell Aircraft in St. Louis, Mo.

After a receiving inspection at Merritt Island, it went to the Pyrotechnic facility for a pyrotechnic buildup. This was followed by a review of work performed on the spacecraft and weight and balance checks in preparation for its delivery to Pad 19.

in a nationwide Youth Science Congress sponsored by the National Science Teachers Association (NSTA) and the National Aeronautics and Space Administration.

Nine of the participants come from Texas; Kansas is next with five, and Colorado, Nebraska, and Oklahoma each sent one.

Of the Texas group, two come from Houston: two from Longview; two from Pampa; two from San Antonio, and one from Austin. Texas finalists are Edward Osborne, and William A. Voelkle, both from Houston; Donnis D. Koons, and Jame Smith, from Longview; Avril Doucette, and Cynthia Plaster, Pampa; Mary A. Geyne, and Elizabeth Switzer, San Antonio; and Arthur Frankel, Austin.

Regional finalists from Kansas include Sarah Hall, and Robert Weltsch, both of Manhattan; James Haug, Seneca; Margaret MacDougall, Shawnee Mission; and Edward Aten, Overland

Park.

Others are Robert Vadnal, Pueblo, Colo.; Margaret Wilkie, Marsland, Nebr.; and Paul Patten, Purcell, Okla.

While at the Center, the students will present their scientific papers to a panel of judges who will select three regional winners. The winners will advance to a national competition to be held at NASA Headquarters, Washington, D. C., in May.

In addition to the professional meetings at which they will be reading their own research reports, the science-talented students will visit with NASA engineering personnel in the MSC laboratories, and will tour the Houston area.

Two luncheons are scheduled. An astronaut will be the speaker at one, and a member of the aerospace industry will speak at the other. Climax of the two days of meetings will come at an awards dinner tonight with Paul E. Purser, special assistant to the MSC director as speaker at which time the winners will be announced.

The winners' research papers covered the scientific fields of botany, earth and space, chemistry, and biology.

This is the second year NSTA sponsored congresses. They were initiated in order that senior high school students may more thoroughly understand professional requirements in the fields of science and technology. The program consists of eight regional events with the winners moving to a national competition.

GTA-6 Mission

(Continued from Page 1)

launch of the Gemini spacecraft, the Agena vehicle will stay in orbit at least five days. The Agena can be maneuvered in space to make docking easier and faster in case of a delay in the Gemini launch, Mathews continued.

Stafford, named to perform the extravehicular portion of the flight, said that after depressurization of the spacecraft and opening the hatch, he would egress into space on a tether line and retrieve a micrometeorite experiment from the exterior of the spacecraft and also take some photographs. A depressurization and stand-up maneuver is scheduled for GT-5.

The GT-6 flight will last from one to two days depending on the position of the spacecraft for purposes of recovery after the mission objectives have been accomplished.

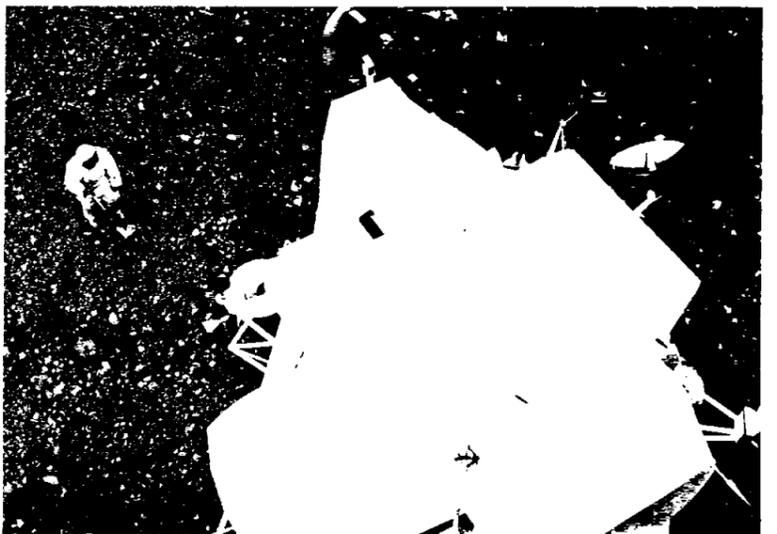
Fifteen or 16 orbits would provide a favorable landing position in the Atlantic and 22 orbits would place the spacecraft in a favorable landing position for a Pacific recovery. Recovery is largely determined by the length of the flight, Mathews stated.

The mission of the GT-6 and the Agena is scheduled for the early part of 1966.

Lunar Training At MSC

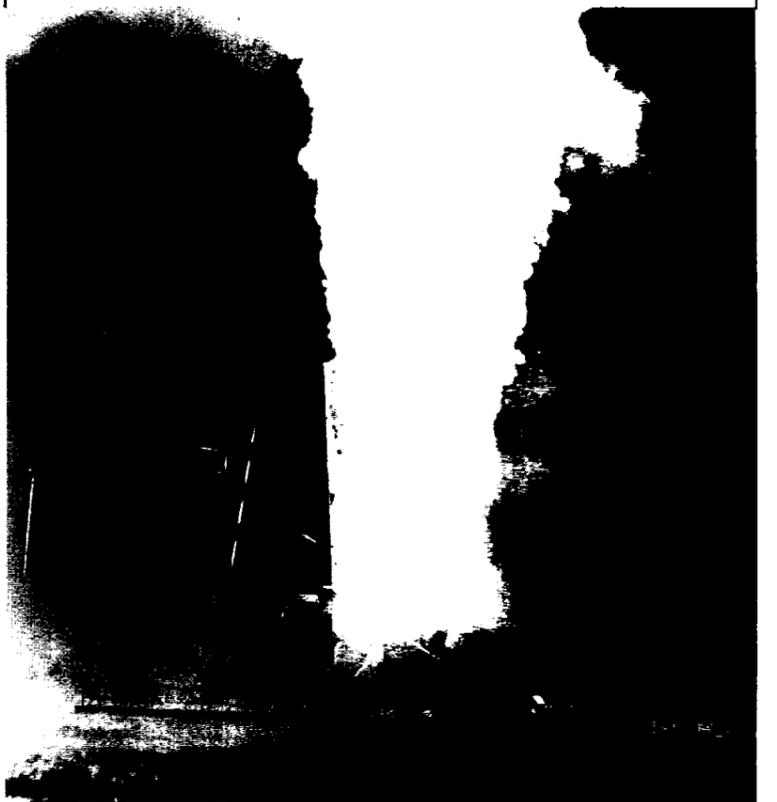


CRATER CLIMBING—John B. (Jack) Slight, a test engineer with the Crew Systems Division, uses a rope to assist his climb out of a crater at the Lunar Topographical Simulation Area. The six degree of freedom simulator in which he is strapped produces the effect of lunar or one-sixth earth gravity on his body. The rope is secured to a piton which Slight had driven at the top of the crater before descent. Slight is wearing an Apollo pressure suit.



LUNAR SCENE—John B. (Jack) Slight, a test engineer with the Crew Systems Division, approaches the full-scale mock-up of the Apollo Lunar Excursion Module on the Lunar Topographical Simulation Area. He is wearing the Apollo Extravehicular Mobility Unit, consisting of the Apollo pressure garment, the thermal overgarment, and the Portable Life Support System on his back. He carries a Jacob's staff for added mobility.

Largest Rocket Motor Fired



ROCKET FIRING—The world's largest rocket motor, generating 3.2-million pounds thrust, sends flames and smoke towering 2,000 feet in a test of a giant exhaust nozzle. The test was conducted by Thiokol Chemical Corporation under contract to the National Aeronautics and Space Administration. The solid motor, 80 feet long and 13 feet in diameter, burned 800,000 pounds of fuel in the 64 second test. The motor was mounted nose down in the concrete-lined pit 120 feet deep.



COMMENDATION MEDAL WINNER—Air Force Major Dennis H. Johnson (right) is shown as Astronaut Alan Shepherd pins the Air Force commendation medal on him at ceremonies held here this past Monday.

GT-3 Astronauts Welcomed Home At Airport Ceremonies



WELCOMING CEREMONIES—Astronaut John W. Young is greeted at the Houston International Airport by an enthusiastic crowd who came to the welcoming home ceremonies April 2.



ARRIVAL IN HOUSTON—A reception was held at the Houston International Airport for the astronauts and their families April 2. Betty Grissom (l.) and Barbara Young (r.) were greeted by Mayor Louis Welch and given a dozen yellow roses as Scott and Mark Grissom (center) look on.

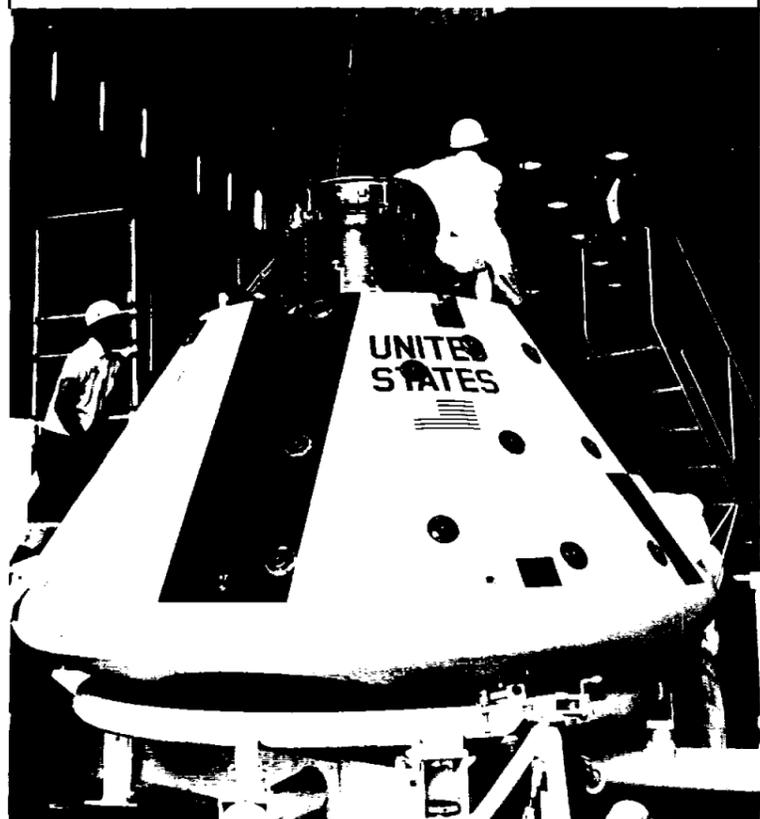


WELCOME HOME—Eager youngsters reach to shake hands with Astronaut Virgil I. (Gus) Grissom at welcoming ceremonies at the Houston International Airport, April 2. Houston schools were dismissed to allow the students to greet the astronauts when they returned to Houston.



KEY TO THE CITY—Mayor Louis Welch (right) presents "key to the city" in the form of a tie clasp to astronaut Virgil I. (Gus) Grissom upon his return to Houston after the recent GT-3 flight. Young was also presented a key. The mayor said he hoped they would wear them on their next flight.

BP-22 At White Sands For Flight



PREPARING FOR BP-22 LAUNCH—Workmen are shown as they make preparations to ready the Apollo Boilerplate-22 command module for the upcoming launch at the White Sands Missile Range in New Mexico. The command module and service module were delivered to the Vehicle Assembly Building at Launch Complex 36 recently after being flown from California to Holloman AFB, Alamogordo, N. M. The Little Joe II launch vehicle for the test flight was delivered to White Sands March 19.



RECEIVING LINE—A receiving line was formed in the restaurant at the Houston International Airport so guests could personally congratulate the astronauts. Shown (l. to r.) are Astronaut Virgil I. (Gus) Grissom; his wife, Betty; Astronaut John W. Young; his wife, Barbara; and Texas Secretary of State, Crawford Martin, who represented Texas Governor John Connally.

Parades, Receptions, Speeches Greet Grissom And



NEW YORK WELCOME—Astronauts Virgil I. (Gus) Grissom and John W. Young are greeted by thousands of tickertape and confetti-throwing well-wishers on their arrival in New York.



YOUNG FETED—At a White House ceremony at President Lyndon B. Johnson's invitation Astronaut John W. Young, the pilot for the National Aeronautics and Space Administration's Gemini-3 three-orbit mission, was presented by the President the NASA Exceptional Service Medal for the GT-3 mission flown from Cape Kennedy, March 23, 1965. (l. to r.) Vice President H. H. Humphrey, Astronaut Young, President Johnson and James E. Webb, NASA Administrator.



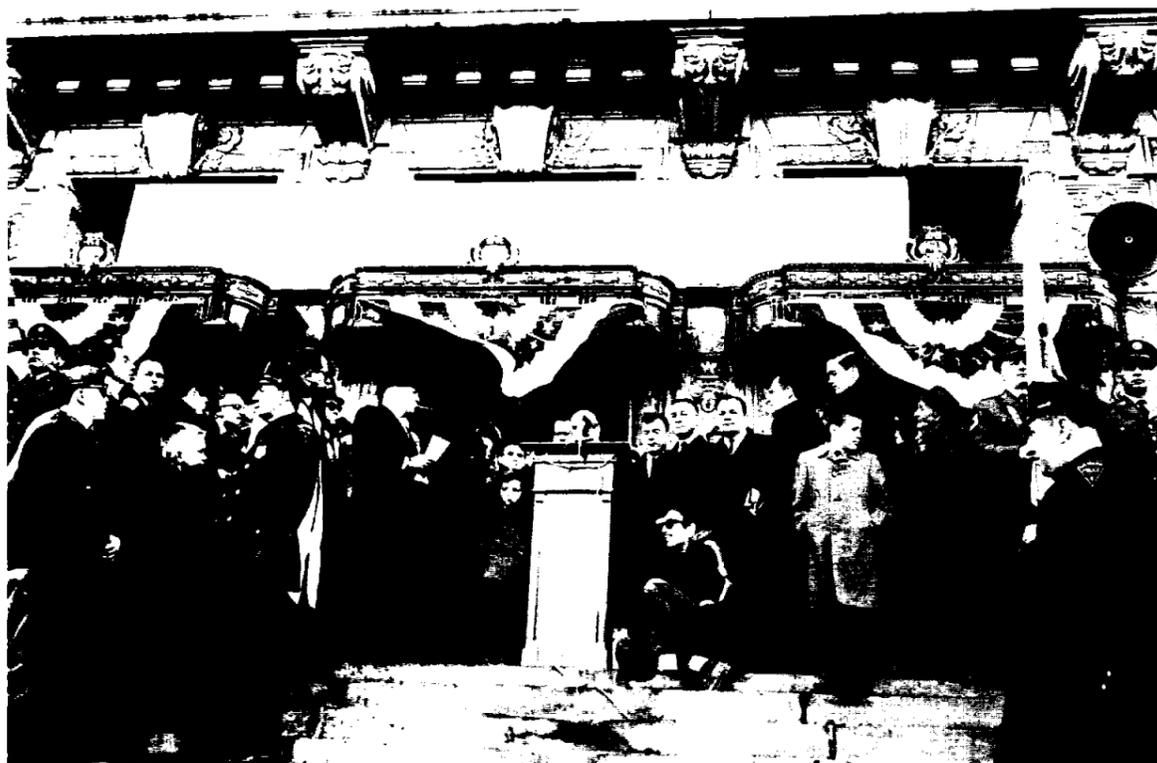
HONORARY NEW YORK CITIZENS—New York Mayor Robert F. Wagner gives a double handshake to Astronauts Young and Grissom as Dr. Robert C. Seamans Jr., associate administrator of NASA, smilingly approves. The mayor presented the two, honorary citizenship medals for New York City as well as keys to the city.



ARRIVAL AT AIRPORT—Astronauts Virgil I. Grissom and John W. Young are shown with Vice President Hubert H. Humphrey as they were greeted at LaGuardia airport on their arrival in New York City.



CITY HALL—On the steps of the New York City Hall, Astronauts Virgil I. Grissom and John W. Young were presented keys to the city by Mayor Robert F. Wagner. Shown (l. to r.) are Grissom; Vice President Hubert Humphrey; Young; and Dr. Robert C. Seamans Jr., associate administrator, NASA.



NEWARK WELCOME—Newark city officials turned out to welcome Astronauts Virgil I. Grissom and John W. Young on their stopover in that city on their way to New York City. Here they are shown on the steps of the Newark City Hall.



NEW YORK PARADE—Vice President Hubert Humphrey seated in an open limousine between Astronauts Virgil I. Grissom and John W. Young manages a smile along with the astronauts as they wave to acknowledge the well-wishers along the route to the New York City Hall. Many turned out in spite of the downpour of rain.

MANNED SPACECRAFT CENTER, HOUSTON, TEXAS

EMPLOYEE NEWS

PAGE 1-A

APRIL 16, 1965

Air Force Man Retires At Center



FIRST MILITARY RETIREMENT AT MSC—Dr. Robert R. Gilruth, director, MSC, extends farewell wishes to Lt. Col. Frank Eckenroth who retired March 31 from the Air Force after 23 years service. Colonel Eckenroth has been serving as Air Force Systems Command/Air Tactical Command Liaison here at MSC since August 1963. Maj. Thomas Borgstrom will replace Colonel Eckenroth, at the Center.

Employees Spring Dance Scheduled For Next Week

The spring dinner dance for MSC employees will be held April 22 in the Crest Hotel under the sponsorship of the Employees Activities Association.

Cocktails will be served beginning at 5:30 p.m., with dinner at 6:30 p.m. Music will be furnished by a combo with dancing until 11 p.m.

Only 250 people can be accommodated in the area reserved for the dinner-dance and tickets will be sold on a first come first serve basis. The price of \$3.50 per person includes the dinner and dance.

For tickets or more information contact any EAA representative.

Performance Award Presented



RECOGNITION AWARD—Maxime A. Faget, assistant director for Engineering and Development, presents a Sustained Superior Performance Award to Diane Colonna of the Advanced Spacecraft Technology Division. The presentation was made March 8.

Sixteen Employees Rewarded

\$1395 In Cash Awards Presented For Beneficial Suggestions Here

March 16, 1965, Joseph N. Kotanchik, chairman of the Manned Spacecraft Center Suggestion Committee, presented cash awards totaling \$1395 to sixteen MSC employees.

These awards were made for beneficial suggestions which have been approved for adoption by the Suggestion Committee. In addition to the awardees, who represent ten Center organizations, their supervisors, division/office chiefs, and members of the Incentive Awards Committee attended the ceremony.

Implementation of these worthwhile suggestions will result in both tangible and intangible savings to the Center. The tangible first-year savings will amount to \$128,205. Intangible benefits will be derived in the areas of safety and improved procedures.

James W. Rayl of the Apollo Spacecraft Program Office received a \$20 award for his proposal that plain individual cloth tabs be used directly on master file copies of technical documents filed in Apollo Document Control.

Recipients of \$25 awards were: Glenda L. Garrett of Flight Control Division for her suggestion that traffic signs be installed at the main entrance directing drivers to use only their parking lights when approaching the gate; Edgar R. Harlowe Jr. of Technical Services Division for his suggestion that safety shields for lathes be used in his division; Ernst F. Germann Jr. of Guidance and Control Division for his sugges-

tion that ceiling-mounted exit signs be rotated 90 degrees; Halley M. Bishop of Center Medical Office for his suggestion that a protective covering be provided for the MSC ambulance; Paul R. Penrod of Crew Systems Division for his suggestion that the publication "Unwritten Laws of Engineering" be distributed to all MSC engineering supervisors; James W. Allison of Facilities Division for his suggestion that the steps at all loading docks be widened, especially those by Building 8; Richard W. Bradshaw Sr. of Technical Services Division for his suggestion that each MSC organizational element have one or two employees serve as local safety men at the section level; Gilbert C. Symons of the Apollo Spacecraft Program Office for his suggestion that Security Guards wear white or light colored rain slickers and/or wearing apparel as a safety precaution; and, Barbara J. Walston of Technical Services Division for her suggestion that all loading dock areas of a glazed cement finish be sand blasted or roughened in some manner as a safety item.

Recipients of \$100 awards were: Carl O. McClenny of Crew Systems Division for his suggestion regarding standardization of NASA Statements of Work, and Paul M. Sturtevant of the Gemini Program Office for his suggestion on security procedures regarding visitors to regularly scheduled meetings.

Alphonse M. Thiel of Office Services Division received an award of \$150 for his suggestion on a protracted index tab cutting guide.

An award of \$300 was made for a co-suggestion submitted by Melvin E. Dell and Raymond M.

Hall of the Apollo Spacecraft Program Office and Alexander S. Lyman of NASA Headquarters. Dell and Hall each received \$100 for this beneficial suggestion on revised PERT reporting on the ACE-S/C Program. This suggestion will realize a tangible first-year savings of \$50,000.

An award of \$500 was divided between William J. Bonifas of the Apollo Spacecraft Program Office and Fred J. Laurentz of Resources Management Division for their co-suggestion on an improved method of PERT data processing. This suggestion will result in first-year savings of \$75,600.

Kotanchik commended the awardees for their interest in submitting these profitable suggestions, and invited other employees to follow their excellent example. He also expressed the sincere appreciation of the Committee for the fine reception and support the Suggestion Program has received from both management and employees of the Manned Spacecraft Center. Since its inception in May 1964, the MSC Suggestion Program has achieved one of the highest participation rates in the National Aeronautics and Space Administration, and, at the same time, can claim high quality suggestions, he stated.

In carrying out President Johnson's desire that each Federal employee be an active, conscientious participant in the effort for quality, the Incentive Awards Office encourages and welcomes worthwhile suggestions from all MSC employees. Any questions regarding this program may be directed to the Incentive Awards Office, Ext. 3761, or the division coordinators.

Photo Club Sets New Meeting Time And Place

At the April 1 meeting of the Photo Club, the members decided to change the meeting place from Building 1 to Ellington AFB and to hold meetings at 8 p.m. the first Thursday of each month.

The exact location for the meetings at Ellington AFB has not been decided, but members may call Ken Cashion at Ext. 7673 before the next meeting for details. The next meeting (an exception to the above schedule) will be held Thursday, April 29.

A photographic field trip to the San Jacinto Monument has been scheduled for this weekend, Sunday, April 18. Members and visitors are invited to bring their families (and cameras) and meet there at 3 p.m.

At the April 1 meeting a discussion of what constitutes an outstanding photograph took place. Members brought samples of published photographs which they considered outstanding.

Scenics was the subject of the photographic competition at the April 1 meeting. The results of the two categories were: color

(Continued on Page 4-A)

Award For Superior Performance



SSP AWARD—Wesley L. Hjernevik, assistant director for Administration, presents a Sustained Superior Performance Award to Betty Schick of the Office Services Division. The presentation was made March 17.

Tech Services Employee Retires



RETIREMENT CEREMONY—Marion R. Zedekar (right) is shown as he was presented a watch by Joseph P. Siegfried, chief, Instrument Machine Section, Technical Services Division during a retirement ceremony in Building 10. Zedekar, a tool and cutter grinder in Siegfried's section, retired after 20 years of federal service. The watch was a gift from Zedekar's fellow employees in the Machine and Assembly Branch.

MSC Toastmasters Hold Installation Of New Officers

An installation of officers was held at the April 7 meeting of the MSC Toastmaster Club at the Congress Inn.

Installed were: Gen. Russell Gustke, president; Marvin Matthews, educational vice president; Ernest Gillam, administrative vice president; Dick Crane, treasurer; Alan Doyle, secretary; and Charles Row, sergeant-at-arms.

The Toastmasters is a nationally affiliated organization dedicated to the principle that "given the opportunity, anyone can learn and develop the basic tech-

niques of oral presentation and the conduct of meetings."

Any person interested in the activities of this club are cordially invited to attend one of the bi-monthly dinner meetings held the first and third Wednesdays of each month at 6 p.m., Congress Inn.

Anyone For Softball?

Ladies at the Manned Spacecraft Center who are interested in playing softball are asked to call Frankie Fisher at Ext. 3165 for the purpose of forming teams.

Talent Being Solicited

'Vaudeville Revisited '65' To Benefit Freeman Libraries

A benefit variety production titled "Vaudeville Revisited '65" will be staged by MSC employees here at the Center June 18-20.

All proceeds from the three performances will be used to purchase books for the Theodore Freeman Memorial Library of Aeronautics and Astronautics at the Houston Baptist College, and the Freeman Library in Clear Lake City.

A talent hunt is now underway here at the Center to get together a performance of top

acts featuring MSC employees.

Anyone wishing to participate in the variety show or knowing of any person with talent in this field should call Juanita Bower, chairman of this event, at Ext. 4951.

Acts that are most needed include soft-shoe routines, singing and comedy skits. People to help with the production are also needed.

Curtain time will be 8 p.m. each evening. Ticket sales locations and prices will be announced later.

MSC Charm Club To Hold Second Style Show, May 5

The MSC Charm Club will sponsor its second style show of the season, Wednesday, May 5, at the Clear Lake Country Club.

"Hawaiian Luau" will be the theme of the show with fashions to be furnished by a Houston clothing firm. The fashions will be modeled by the swimming pool, with guests encouraged to wear casual attire. Judy Ward, fashion coordinator, will commentate.

The program will begin at 6 p.m. with cocktails followed by a tropical dinner at 7 p.m., served at poolside.

Tickets will be \$2.50 and a limited number will be available for purchase from charm club members. For information or tickets call Suellyn Johnson,

Ext. 4973, or Jan Shrum, Ext. 3671.

The first style show held by the group March 17, had "The Space Age" as its theme.

All MSC and contractor ladies interested in joining the Charm Club are cordially invited to attend a business meeting at 6:30 p.m., Wednesday, April 21 in the Building 30 Auditorium.

Another course will be scheduled for the next 15 weeks with Marilyn Flowers, professional model and dance instructor as the teacher. Registration fee is \$22.50 and monthly club dues are \$1.

Charm club officers are Suellyn Johnson, president; Judith Liles, vice president; and Janet Shrum, secretary-treasurer.

EAA CALENDAR OF EVENTS

Specific times and places that are not indicated for these proposed events will be announced later.

Center-wide Social Activities
Mary Sylvia, chairman, Ext. 3038.

April 12-18: MSC Art Exhibit, E. H. Brock, chairman, Ext. 4788.

April 22: MSC Dinner Dance, Wilbur Clark Crest Hotel, 5:30 to 11 p.m.

May: Barbecue and baseball game, Domed Stadium.

May 5: MSC Charm Club Style Show, Hawaiian Luau, Suellyn Johnson, Ext. 4973.

June 18, 19, 20 (tentative dates): MSC Variety Show, "Vaudeville Revisited—'65", Juanita Bower, Ext. 4951.

June 26: MSC Summer Dance, Sylvan Beach, Rex Bauerlein, Ext. 4846.

August: Dinner Style Show.
September: Annual Picnic, Tony Yeater, Ext. 2108.

October: Halloween Costume Ball, Rex Bauerlein, Ext. 4846.

December 10: Annual Christmas Dance, Sylvan Beach, Phil Grey Orchestra, Rex Bauerlein, Ext. 4846.

Children's Activities
Joyce Lowe, chairman, Ext. 5258.

June: Zoo and Planetarium Trip.

July: Movie Party.

August: Roller Skating Party.

October: Halloween Costume Party.

November: Theater Party or Symphony Concert.

December: Annual Christmas Party.

Charm Club's Style Show Featured 'Space Age' Dress For Women



STYLE SHOW—The theme of the first style show held by the MSC Charm Club March 17 was "The Space Age." Shown (l. to r.) are: Yvette Baker, a secretary with the Apollo Spacecraft Program Office, modeling an unusual "Outer-Space Bridal Gown." Carol Daunt, a secretary with Lockheed Electronics, modeling a "Neptune Outfit." Sue Borman, wife of Astronaut

Frank Borman, modeling another "space age" outfit. Judith Liles, a secretary in the Apollo Spacecraft Program Office, modeling pink stretch pants and beige sweater. Wanda Slack, a secretary with the Computation and Analysis Division, modeling "at home togs for space homemakers." All the fashions were designed by Jack Winters.

Fifteen-Year Service Awards Presented In Administration Divisions



SERVICE AWARDS—Employees in the office of the assistant director for Administration, with 15 years of Government service, were honored recently in special ceremonies. Each were presented gold NASA emblems and certificate of appreciation signed by Dr. Robert R. Gilruth, director, MSC. Receiving awards were: Procurement and Contracts Division: Dorothea K. Maddox, Ace C. Wilder Jr.; Management Analysis Division: Cecil L. Roby; Personnel Division: Elden R. Appel; Resources Management Division: Marion Y. Bailey, Florian B. Hopson, Robert P. Linberger, George V. Sowers, Marvale Y. Stark, Elton A. Wilborn;

Security Division: Everett D. Shafer; Paperwork Management Office: J. C. Chatman; Office Services Division: Nicholas S. Jakir, Joseph A. Puccio; Logistics Division: Raymond L. Brazil, Lonnie Edwards, Roy H. Field, Jesse L. Wilder; Office of Technical and Engineering Services: Tom F. Brahm; Engineering Division: Jerrye O. McKown; Facilities Division: Harley F. Erickson, Wiley W. Murrell Jr.; Technical Services Division: Inocencio M. Cortez, Paul A. Folwell, Edwin L. Shropshire; Maintenance Task Group: Robert L. Ruggles, Walter H. Smith, Frank E. Vaughn Jr.

MSC BOWLING ROUNDUP

MSC MIXED LEAGUE
Standings as of April 5

TEAM	WON	LOST
Celestials	78½	29½
Virginians	69	39
Alley Cats	64½	43½
Play Mates	55	53
Gutter Nuts	53½	54½
Chugg-a-Luggs	52½	55½
Falcons	51½	56½
Hawks	51½	56½
Dusters	51	57
Shakers	48	60
Eight Balls	45	63
Goofballs	36	70

High Game Women: Barnes 225, Morris 213, Smith 192.
High Game Men: McDonald 245, Morris 230, Lively 225.
High Series Women: Barnes 575, Morris 494, Gassett 474.
High Series Men: Keeley 588, Sargent 580, Spivey 574.
High Team Game: Shakers 919, Celestials 854, Virginians 840.
High Team Series: Shakers 2424, Celestials 2399, Virginians 2342.

NASA 5 O-CLOCK MON.
Standings as of April 5

TEAM	WON	LOST
Suppliers	63	41
Foul Five	63	41
Computers	56	48
Hot Shots	47	57
Sombreros	47	57
Alley Gators	38	66

High Game: W. Kutalek 244, T. Hutchens 232, J. McDowell 230.
High Series: H. Erickson 595, E. R. Walker 591, T. Hutchens 590.
High Team Game: Computers 880, Suppliers 865, Foul Five 862.
High Team Series: Suppliers 2473, Foul Five 2341, Computers 2321.

MIMOSA MEN'S LEAGUE
Standings as of April 1

TEAM	WON	LOST
------	-----	------

Roadrunners	25	15
Fabricators	24½	15½
Whirlwinds	24	16
Technics	22	18
Sizzlers	20	20
Green Giants	20	20
Spastics	20	20
Fireballs	17	23
Alley Oops	16½	23½
Pseudonauts	11	29

High Game: Blair 254, Grimwood 244, Amason 233.
High Series: Gaffney 613, Morgan 629, McBride 587.
High Team Game: Fabricators 990, Alley Oops 975, Spastics 908.
High Team Series: Fabricators 2641, Roadrunners 2681, Spastics 2585.

MSC COUPLES LEAGUE
Standings as of April 6

TEAM	WON	LOST
Wha' Hoppen?	32	16
Schplitz	30	18
EZ-GO	29	19
Bltzf	26	22
Bowlernauts	25	23
Alley Cats	24½	23½
Pin Splitters	24	24
Goofballs	22	26
The Crickets	22	26
Hi-Ho's	21½	26½
Sandbaggers	17	31
The Thinkers	15	33

High Game Women: J. Foster 228, K. Gentile 224.
High Game Men: J. Garino 246, D. Kennedy 244.
High Series Women: J. Foster 564, J. Sands 538.
High Series Men: J. Garino 642, B. Jones 628.

NASA MIXED LEAGUE
White Sands Operations
Standings as of April 1

TEAM	WON	LOST
Roadrunners	38	14
Goofballs	36½	15½
Bad Guys	27	25
Pinbusters	26	26
Woodbusters	24	28
Misfits	23½	28½

New Officers Elected, Library Established

Rod And Gun Club Rifle-Pistol Teams Active

The rifle and pistol teams of the Rod and Gun Club here at the Manned Spacecraft Center have been active in matches during recent weeks. During March, the rifle team fired four matches and team members won 32 awards. Charles Ritchie and Charles Krpec, who have only been

shooting for four months, won nine awards in a recent match. Members of the rifle team include: Gordon Spencer, Ritchie, Krpec, and George Olah. The team is currently shooting at Texas City on the first and third Friday evenings and plans are being made to use the Uni-

versity of Houston rifle range for practice sessions. Anyone interested in rifle shooting should contact Paul Folwell at Ext. 4721 for further information. The pistol team is currently taking part in a competition with seven other teams over an eight-week period in the "South Texas Reserve Peace Officers Marksmanship Association" league match.

Members participating in this match include: Gordon Rysavy, Thomas McPherson, Lloyd Diertert, Benny Sprague, Willis Mitchell, and Francis Hickey. The Rod and Gun Club recently became affiliated with the National Rifle Association and is in the process of registering with the Director of Civilian Marksmanship.

At a recent election of officers, Spencer was elected president; Rysavy vice president, George Hydrick, correspondence secretary, Darrell Kendrick, recording secretary; Tom Davies, treasurer; and David Bell, Hoyt McBrayer and Jerome Vick, trustees. Committee appointments were also made.

The club has also established a library for use by its members and Dale Haines has been appointed as club librarian. Books on guns, fishing and hunting are presently available.

The next meeting of the Rod and Gun Club is at 8 p.m., April 19, at the Southwest Savings and Loan building in Nassau Bay. The newly elected officers will be installed at this meeting. Activity reports will be made for programs planned during the months of April, May, June and July.

Anyone interested in fishing and shooting is invited to attend the meeting.

Bowling Tournament Winners



BOWLING CHAMP—John D. Sargent (left), Flight Crew Support Division, and Jim Alphin, Gemini Program Office are shown with the championship trophies they won in Class C Handicap Doubles in the Galveston County Association Bowling Tournament in February. The trophies were awarded March 27. Both bowl in the NASA Mixed League.

Good Guys	22½	29½
Scatterpins	13½	38½

High Game: Gantz 236, Tillett, Matuszewski, Glicken 224.
High Series: B. Tillett 626, B. Colston 596, Glicken 596.

High Team Game: Roadrunners 863, Goofballs 796, Pinbusters 763.
High Team Series: Roadrunners 2386, Goofballs 2352, Misfits 2276.

How About A Ride To And From Work?



MSC RIDE BOARD—Looking for riders, for a ride, or trying to get into a car pool? Then the place to look is the MSC Ride Board located in the Cafeteria on the outside north wall of the executive dining room. A map of the area around the Center is blocked off into sections and cards may be filled out with your request and hung on the appropriate spindle. Reported results have been good so far on getting people together on transportation needs. By the way the two girls are Judy Wheeler (left) and Joan McBrayer, both of the Gemini Program Office and they are pointing to their home section on the map. They may have filled out a card looking for a ride . . . so all you fellows in their areas had best check the board.

Training Branch Offers Courses, Deadline Set For UofH Enrollees

The MSC Training Branch is again providing courses for employees who need to improve their written communication skills.

The courses are taught by Dr. John R. McCormick, director of the Communications Skills Company, Huntsville, Ala. A former assistant professor of English and a professional writer in his own right, Dr. McCormick brings to his classes more than fifteen years' experience in the problems of the government writer.

Here are some of the courses in Communication Skills, along with others that are being planned for the days ahead.

May 10—Telemetry
May 13 — New Employee

Orientation

May 17 — Middle Manager Seminar

May 18—Introduction Supervision

May 10—Clear Writing I

May 10 — Advanced Secretarial Seminar

Deadlines for filing application for admission to the Summer Session at the University of Houston are May 10 for graduate study and May 17 for undergraduate.

MSC employees may be nominated for any of these courses by sending MSC Form 75 through appropriate supervisory channels to the Training Branch. Any questions should be addressed to the Training Branch, Ext. 7311.

Sylvan Beach Ballroom To Be Scene Of MSC Employees Summer Dance

Sylvan Beach ballroom in La-Porte has been chosen as the site of the MSC Employees Activities Association Summer Dance, Saturday, June 26.

Music will be furnished by Nick Navarro and his orchestra for dancing from 9 p.m. to 1 a.m.

Rex Bauerlin, dance chairman, said that the number of tickets to be sold for the dance will be limited so as to provide adequate

space in the ballroom for everyone's enjoyment.

The date for ticket sales, sale locations and the price will be determined and announced at a later date.

Lunar Fin Club Elects Officers, Discusses Diving

The Lunar Fins at MSC recently elected a slate of officers to lead their club.

Hugh Scott was elected president of the club; Ralph Payne, vice president; Sue Lofland, secretary; Jim Shafer, training officer; Jim Peacock, diving officer; Chuck Aldred, treasurer; and Chet McCullough, business manager.

At the meeting, Lew Swift made a talk on the San Marcos dive by club members and Jim Peacock displayed photos he had taken underwater on the dive.

Rotary Fellowships Offer Year Of Study In Foreign Nation

A year of study in a foreign country through a Rotary Foundation Fellowship for International Understanding, is available to eligible young unmarried men with a bachelor degree or the equivalent.

Men here at the Manned Spacecraft Center that are interested in applying for the fellowships should contact the MSC Training Branch, Ext. 7311 for full details.

Engineering And Development Presents 15-Year Awards



FIFTEEN YEAR AWARDS—Maxime A. Faget, assistant director for Engineering and Development, at special ceremonies recently, honored employees of his organization who are 15-year veterans of government. Gold NASA emblems and certificates of appreciation signed by Dr. Robert R. Gilruth, director, MSC, were presented to the awardees. Shown (front row, l. to r.) are: Faget, Sidney Carmines, Sam Geller, John Craven, (back row, l. to r.), James Moody, John Kiker, John Dornbach, James Sasser, Gene Rice, Richard Roll, William Mosely, Glen Willis, Eugene Davis.

Organ Lessons To Be Offered By Proposed Club

Musically inclined MSC employees who are interested in learning to play the organ, are invited to join an Organ Club that is to be formed here at the Center.

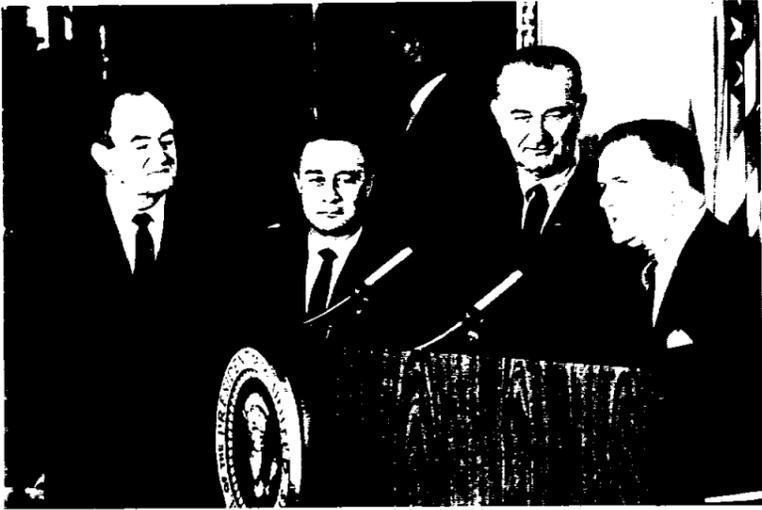
The club will meet on Monday evenings and a nominal charge will be made for organ lessons. For more information call Philip Hamburger, Ext. 2765.

Photo Club

(Continued from Page 1-A) transparencies, first, Brian Morris; second, Fran Johnson; third, Ken Cashion; Black and white prints, first and second, Fran Johnson; and third Brian Morris.

Subjects of competition at the next two meetings are animals (April 29) and abstracts (June 3). Members and visitors are invited to bring samples of their works on these subjects.

Young In Washington, New York And Chicago



GRISSOM HONORED— At a White House ceremony at President Lyndon B. Johnson's invitation, Astronaut Virgil I. (Gus) Grissom the first American to go into space twice, received an appurtenance to the National Aeronautics and Space Administration's Distinguished Service Medal he won for his July 21, 1961, sub-orbital flight in Project Mercury. The President also presented Grissom with the NASA Exceptional Service Medal for the three-orbit Gemini mission flown from Cape Kennedy, March 23, 1965. (l. to r.) Vice President H. H. Humphrey, Astronaut Grissom, President Johnson and James E. Webb, NASA Administrator.



CONFETTI SHOWER— Astronauts John W. Young and Virgil I. Grissom are greeted by a shower of confetti as they parade through the streets of Chicago.



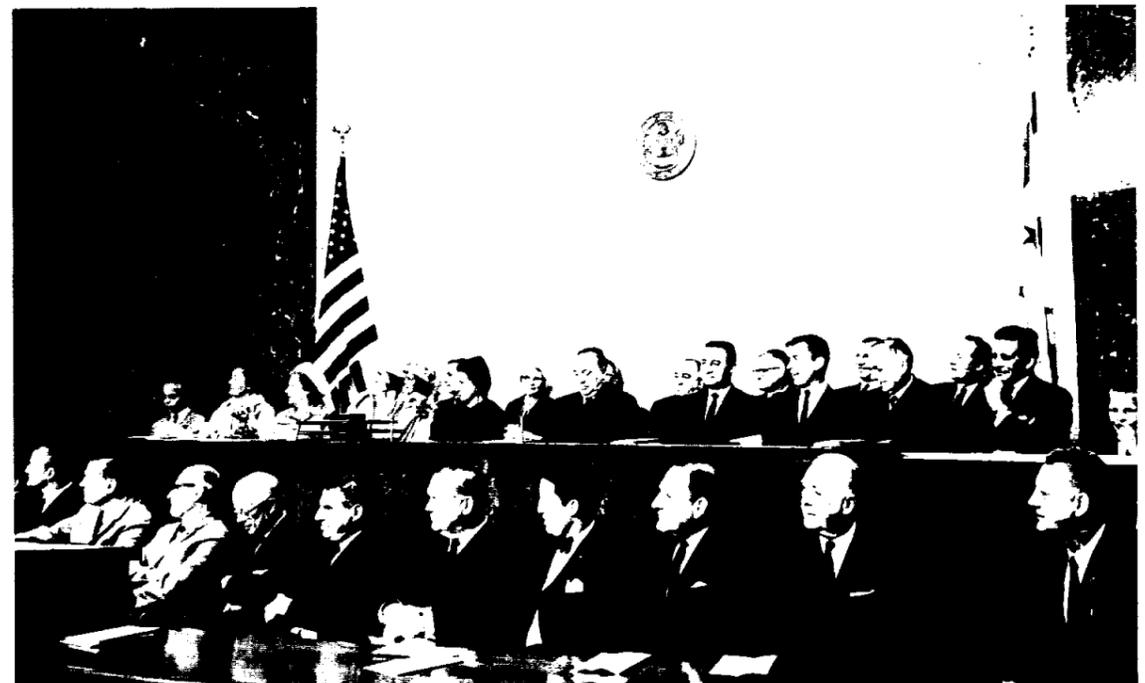
GREETED BY GOVERNOR— Astronauts Virgil I. Grissom and John W. Young and their families are shown as they are greeted by Illinois Governor Otto Kerner on their arrival at the Chicago airport.



STUDENT GREETING— High School students gathered in Chicago's Hotel Sherman to greet Astronauts Virgil I. Grissom and John W. Young. The astronauts were put to a question and answer session by the youngsters.



CHICAGO PARADE— In chilly 30 degree overcast weather, Astronauts Virgil I. Grissom and John W. Young wave to the crowds that greeted them as they moved down LaSalle street on the parade route through Chicago. A rain of confetti flowed from the windows of the buildings that form a "canyon."

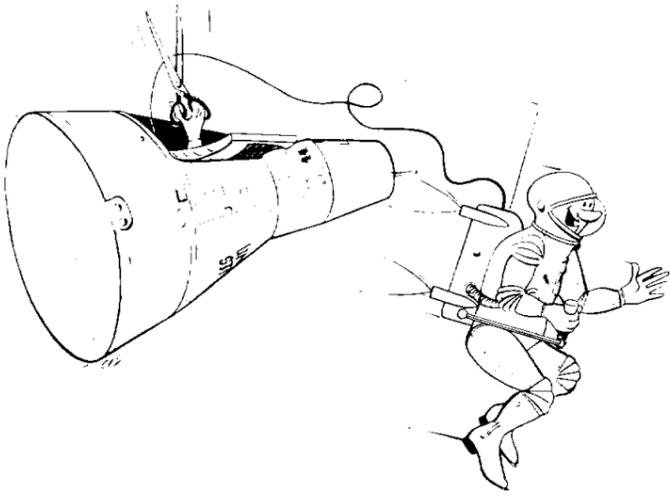


CHICAGO CITY COUNCIL— Astronauts Virgil I. Grissom and John W. Young and families were afforded seats of honor at the Chicago City Council meeting. They are shown with Mayor Richard J. Daley. The council lauded them with a resolution and the mayor presented them with medallions making them honorary citizens of Chicago.

The SPACE NEWS ROUNDUP, an official publication of the Manned Spacecraft Center, National Aeronautics and Space Administration, Houston, Texas, is published for MSC personnel by the Public Affairs Office.

Director Robert R. Gilruth
Public Affairs Officer Paul Haney
Editor Milton E. Reim
Staff Photographer A. "Pat" Patnesky

On The Lighter Side



"Quit griping, I'll let you try it later."

NASA Offers College Professors Courses In Space Science Fields

Engineering courses and research opportunities in space science fields will be offered to fifteen college professors from throughout the nation under a Summer Faculty Fellowship Program this summer.

The program will be conducted jointly by the National Aeronautics and Space Administration, the University of Houston and Texas A&M University.

Scheduled to run from June 14 through August 20, the project will be directed by Astronaut M. Scott Carpenter, executive assistant to the director of the NASA Manned Spacecraft Center, and Dr. C. J. Huang, chairman of the department of chemical engineering at the University of Houston. Serving as a member of the project's advisory committee is Dr. A. E. Cronk, chairman of the department of aeronautical engineering at Texas A&M University.

Astronaut Carpenter is responsible for appointing the fellowships and for selecting their research assignments during the program.

Professors taking part in the Summer Fellowship Program will gain actual research and development experience by spending 30 hours each week attending lectures at the University of Houston by professors from U of H and from Texas A&M University. Additional lecturers will come from the Manned Spacecraft Center, the American Society of Engineering Educators, other universities and from industry.

Among the research and

development fields at the Manned Spacecraft Center are spacecraft technology, space environment, crew systems and systems evaluation and development.

Following a survey of faculty fellows, the University of Houston and Texas A&M University will each conduct three courses of the following six: electrical engineering aspects of manned spacecraft design, space environment and materials, rocket flight dynamics, fundamental concepts in aerodynamic heating, continuum mechanics and aerospace structural mechanics.

One of six summer programs to be carried out simultaneously throughout the nation, the project is being financed under a \$60,000 contract from NASA to the University of Houston for providing to engineering professors knowledge and experience in the fields of space technology which will be of benefit to their colleges.

Similar programs will be jointly provided by NASA Ames Research Center and Stanford University; NASA Lewis Research Center and Case Institute of Technology; NASA Langley Research Center and the University of Virginia, William and Mary College and Virginia Polytechnic Institute; NASA Marshall Space Flight Center, Auburn University and the University of Alabama, and the NASA Goddard Space Flight Center and University of Maryland and Catholic University.

Welcome Aboard

Fifteen persons joined the Manned Spacecraft Center during the last reporting period.

Center Medical Programs Office: Anne A. Brenton.

Public Affairs Office: Judy C. Guynes.

Office Services Division: Roland W. Newkirk.

Personnel Division: Rachel M. Guerrero, Mary I. Jones, and Marilyn Smith.

Instrumentation and Electronic Systems Division: Jack C. Boykin and Edwin W. Ditt-rich.

Propulsion and Power Division: Richard K. McSheehy.

Structures and Mechanics Division: David G. Billingsley.

Flight Control Division: Larry W. Strimple.

Flight Support Division: David N. Hogg.

Gemini Program Office: Sandra M. Romay (St. Louis, Mo.) and Barbara A. Williams.

Apollo Spacecraft Program Office: Mary F. Cope.

Space News Of Five Years Ago

APRIL 18, 1960 — Fabrication of the manned environmental-control-system training spacecraft was essentially completed and a test program on the equipment was started at McDonnell. This test was completed April 25, 1960.

APRIL 26, 1960—NASA announced the selection of Douglas Aircraft for construction of the second (S-4) stage of the initial C-1 Saturn launch vehicle.

APRIL 27, 1960 — NASA signed a contract with Aeronutronic, a division of Ford Motor Co., for the development and production of the first survivable capsule for landing instruments on the surface of the moon.

APRIL 29, 1960—Arrangements, either interim or final, were concluded for all overseas Mercury tracking stations as of this date. Construction is proceeding on schedule at Cape Canaveral, Bermuda, Grand Canary Islands, the Woomera and Muehea Australian sites, and at the demonstration site on Wallops Island, Va. The survey of Guaymas in Western Mexico completed that phase of the program, but the construction was yet to be accomplished.

APRIL 29, 1960—All eight engines of the Saturn rocket were fired for the first time at Huntsville, Ala.

During April, 1960 — The seven Mercury astronauts completed a training session at the Navy Aviation Medical Acceleration Laboratory, Johnsville, Pa.

—Building 575, Patrick Air Force Base, Fla., was in the process of being refurbished for occupancy by NASA personnel in July 1960. This building was

MSC PERSONALITY

Jerome B. Hammack Of Gemini Holds Mercury Spacecraft Patent

Jerome B. Hammack, deputy manager of the Office of Vehicles and Missions of the Gemini Program Office is one of a group of seven men holding a patent on the original Mercury spacecraft.

However, no royalties have accrued from the patent in recent years, Hammack said. A patent on a piece of oil drilling equipment might have provided a greater monetary return, he quipped.

His portion of the patent is for the development of the recovery system onboard the spacecraft, work that he performed before the Space Task Group was formed in November of 1958.

When that group was formed, Hammack was one of the original 35 Project Mercury members.

In his present position, he is responsible for management functions within the Gemini Program Office pertaining to the technical development of the Gemini launch and target vehicles. His duties also include management responsibilities for the establishment of the basic mission plans and requirements, and the assurance of overall compatibility and integration of the launch and target vehicles, the spacecraft, and the launch complexes.

During and after each of the Gemini flights he acts as senior editor on mission evaluation reports on the launch vehicle and when the Agena becomes part of the mission on future flights, he will also be editor of reports on the target vehicle.

Hammack also serves in an acting capacity as chief of the Vehicles Development Office for the Gemini launch vehicle and the Agena target vehicle. In this capacity his job is to assure an adequate man-rated launch vehicle with all the necessary pilot safety features. He also

makes sure that the Agena target vehicle for the Gemini flights will meet the overall program requirements.

He was born in Coleman, Ga., and graduated from high school in Cuthbert, Ga. He attended the Citadel in Charleston, S. C., for two years before transferring to Georgia Tech where he received a BS degree in aeronautical engineering in 1943.



JEROME B. HAMMACK

From October 1943 until May of 1944 he was a design engineer with Douglas Aircraft Corporation in California, prior to joining NASA at the Langley Research Center in Virginia.

There he worked in the Flight Research Division where he was involved in propulsion research. He later served as project engineer on the XF-88B turboprop research airplane.

In 1958 when the Space Task Group was formed, Hammack became head of the Research and Development Test Coordination Office. In the early part of 1959 he headed up a Mercury-Redstone project engineering group that worked with the Marshall Space Flight Center on the launch vehicle and McDonnell Aircraft on the spacecraft for the Mercury missions through MR-4. He also served as editor of post launch reports of these flights.

In mid-1961 he began working with a group on the preliminary planning phase of Gemini and with the creation of the Gemini Project, he assumed his present duties in January 1962.

Hammack is a past associate fellow of the American Institute of Aeronautics and Astronautics (AIAA) and a member of Sigma Chi social fraternity. He has authored more than two dozen NASA technical publications.

He is married to the former Adelin Worrill of Cuthbert, Ga. The couple has two sons, Charles 15, and Patrick 10, and the family resides in Seabrook, Tex.

Hunting quail with his champion English Setter "Pepper" is his favorite outdoor sport. He also enjoys boating, fishing and water sports with his family.

SPACE QUOTES

RANGER VIII IS MILESTONE IN SPACE. Editorial, The Washington Post, Feb. 12, 1965.

"... The knowledge now available is infinitely greater than it was before the moonshots began. There is much satisfaction too in the skill and precision of the experts who guided Ranger VIII to the precise area of the moon which the Manned Space (craft) Center and the National Aeronautics and Space Administration wished to explore.

"The achievement must be marked down as a thrilling incident in the conquest of space. It has given the whole country a sense of participation in a well designed and well executed assault upon the unknown. All who contributed to it have earned the applause of a curious and expectant mankind."

designated for Space Task Group use in Mercury launch, network, and data coordination.

Realistic Approach Used In Training Program For Gemini Crews

Realism is the by-word in the training program conducted for the astronauts assigned to flight crews for coming Gemini missions.

Astronauts Frank Borman and James A. Lovell, backup crew for the second manned Gemini

flight (GT-4), recently went through a training exercise in the Gulf of Mexico.

The training spacecraft and its crew were lowered into the waters of the Gulf from the deck of the NASA Motor Vessel Retriever with the assistance of

Lyman Lee and Bill Johnson from Tech Services. Frank Gammon, Landing and Recovery Division and Skipper of the Retriever, maneuvered the vessel away from the floating spacecraft for the training exercise.

Assisting the crew in the

egress exercise were swimmers Charlie Rogers, Lamar Beatty and Art Lizza, all from Tech Services.

In addition to practicing the post-landing checklist—powering down the spacecraft systems, checking for spacecraft leaks—the flight crew learned first hand what it was like to be hoisted from the water by a helicopter sling.

After each man had followed his survival kit into the water, inflated his life raft and boarded it, a U. S. Coast Guard helicopter hovered over the men in the water and hoisted each astronaut into the helicopter with a rescue sling.

Helicopter pick-up is standard procedure in an actual space flight when the landing point is several hours steaming time from the nearest recovery vessel. Swimmers dropped into the water from helicopters and airplanes affix a floatation collar around the spacecraft to insure its safe recovery, even though it might be taking on sea water.

Each flight crew for a Gemini space flight undergo realistic egress training in a water tank on

land as well as practicing egress procedures in open-sea conditions.

Gordon Harvey, Flight Crew Support Division, was the project engineer on this training mission with Weldon "Gus" McCown, Landing and Recovery Division, serving as test conductor. Dr. Kenneth N. Beers, Center Medical Programs, was the medical monitor

Gemini Control

(Continued from Page 1)

expansion of rear projection screens on which are flashed TV images, maps, trajectories and other information vital to mission controllers. The screens are 10 feet high and total 60 feet in width.

Ringed the top of the large-screen displays and the operating consoles are computer-driven time and data displays serving to report instantly the status of astronauts, spacecraft and supporting operations to the mission/flight director.

Most of the information to be displayed will reach the Mission Control Center over land lines.



BOARDING THE SPACECRAFT—The Gemini-Titan 4 backup crew is shown preparing to undergo post-landing egress training in the Gulf of Mexico. Astronaut Frank Borman, command pilot, climbs into the Gemini spacecraft from the NASA motor vessel Retriever. Astronaut James A. Lovell Jr., pilot, stands at left waiting to enter the spacecraft. Gordon W. Harvey, Flight Crew Support Division, assists the two astronauts.



GT-4 BACKUP CREW—Astronauts James A. Lovell Jr. and Frank Borman, GT-4 backup crew pilot and command pilot respectively, are shown in the water along with recovery swimmers during post-landing egress training in the Gulf of Mexico. The white-capped waters of the Gulf contribute to the realism of the training.



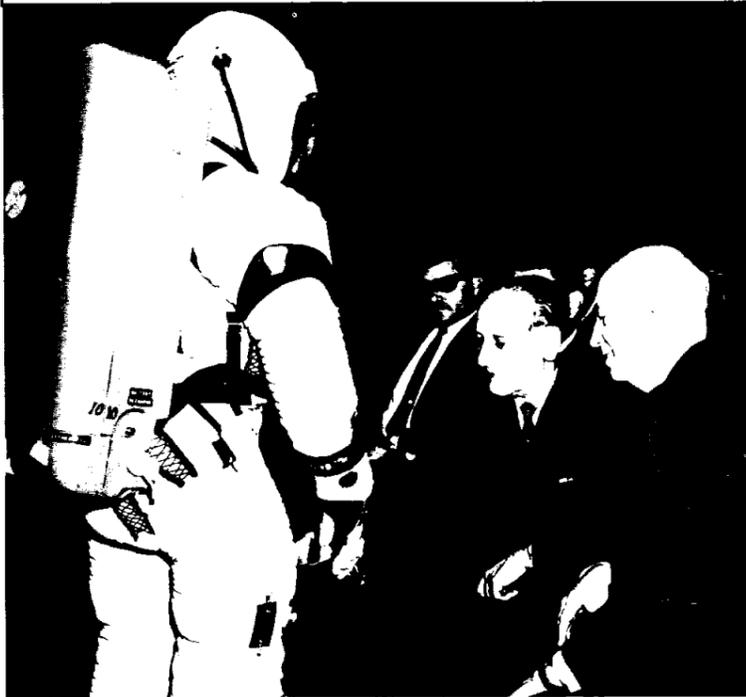
HELICOPTER RECOVERY—Astronaut Frank Borman, command pilot for the GT-4 backup crew, is shown being hoisted aboard a Coast Guard helicopter after leaving a Gemini spacecraft during egress training in the Gulf of Mexico.

Legion Presents Flag To Center



FLAG PRESENTATION—Three members of the American Legion Post 291, San Leon, Tex., are shown presenting an American flag to Dr. Robert R. Gilruth, director, MSC. Left to right, are Frank C. Reynolds; Raymond E. Guidry; Dr. Gilruth; and Steve L. Fay, Post Commander.

Mexican Governor Visits MSC



CENTER VISITOR—Governor Praxedis Balboa, of the state of Tamaulipas in Mexico visited the Manned Spacecraft Center April 9. Here he is shown with Dr. Robert R. Gilruth, director, MSC, as they examine a space suited technician in the Crew Systems Division.

Space News **ROUNDUP!**

SECOND FRONT PAGE



GEMINI FLAG—The United States flag that was carried on the Gemini-3 mission is raised at the Manned Spacecraft Center during welcoming home ceremonies for the GT-3 crew. The flag was made by the employees of the Parachute Support Section of the Technical Services Division.

Will Parallel Radar Development

Optical Rendezvous System To Be Developed For LEM

NASA has decided to develop an optical rendezvous system for the Lunar Excursion Module (LEM) through the Apollo guidance and navigation contractor, AC Spark Plug division of General Motors Corporation.

This system would be parallel with the rendezvous radar system in LEM development. That is, both will be developed at the same time with periodic evaluation of their progress. The first phase will be a study leading to design.

The optical system would use primarily off-the-shelf components, allowing a conservative development program. An optical system, it is felt, would be relatively simple, therefore extremely reliable.

The system would be something like the star tracking system would be electronically craft enroute to Mars. Mariner's system is "locked on" to the star Canopus. Star trackers like that sought for LEM are also used in the B-70 program. LEM's system would "lock on" to stars also, using an optical eyepiece. Like rendezvous radar, the system would be electronically connected to LEM's Inertial Measurement Unit (IMU)—the gyro platform — which sends commands to the spacecraft engines through the guidance package.

For rendezvous operations the optical system would lock on to a beacon aboard the Command/

Service modules, transmitting rendezvous guidance information through the IMU and guidance until the crew is within easy visual proximity of the CSM.

Another function of the star tracker is to orient the onboard computer before lunar landing and provide a known star reference for lunar takeoff, acting as an alignment telescope.

Rendezvous radar for LEM is under development by Radio Corporation of America, under subcontract to Grumman Aircraft Engineering Corporation. So far, about \$20 million has been spent by Grumman on the radar. (The contract total is \$23,461,000.)

The decision to seek a backup program was the result of studies by NASA and the Massachusetts Institute of Technology, design contractor for Apollo guidance and navigation systems. The studies indicated that an optical system is a logical approach because of the relative ease with which optical equipment can be integrated into LEM's guidance and navigation package, with minimum impact on the present development program.

Flag Carried On Gemini-3 Mission To Be Flown During Future Flights

A United States flag that was carried on the three orbital flight of Astronauts Virgil I. (Gus) Grissom and John W. Young, was flown at the Manned Spacecraft Center during special ceremonies on April 1 for the returning astronauts.

The flag, made of a lightweight nylon parachute material, was made by members of the Parachute Support Section of the Technical Services Division at the Center.

During future Gemini missions this flag will be flown at the Center. Dr. Robert R. Gilruth, director, MSC, said during the

brief welcoming home program for the astronauts, "It is fitting that we should hold this welcoming ceremony around the symbol of American unity and freedom — our American flag. It is indicative of our great reverence for the flag that it has been carried, sometimes at great hardship, by all of our great explorers and national heroes of the past."

He went on to say that, "We are the makers of the flag, and it is well that we glory in carrying the flag on our every step into the new and unknown and on occasions of national significance."

"We are honored to have this flag with us and to raise it in tribute to the new milestones in space flight which has been achieved by Gus and John and all the other persons who worked long, hard hours for the success of the first manned Gemini flight."

Grissom and Young expressed their thanks to those at the Center who helped make the flight the success it was.

Young commented that "one of these days, we're going to bring a flag back from the moon."



WELCOMING CEREMONIES—Dr. Robert R. Gilruth, director, MSC, delivers a message at the welcoming home ceremonies for the crew of the Gemini-3 mission. Shown seated behind Dr. Gilruth are (l. to r.) George M. Low, deputy director, MSC; Charles W. Mathews, manager, Gemini Program Office; Astronauts Virgil I. (Gus) Grissom and John W. Young, GT-3 crew; Maxime A. Faget, assistant director for Engineering and Development; and Donald K. Slayton, assistant director for Flight Crew Operations.

Center Employee Awarded Sloan Fellowship

John M. Eggleston, assistant chief for Space Environment in the Advanced Spacecraft Technology Division has been selected for a Sloan Fellowship, beginning in June.

The Massachusetts Institute of Technology Alfred P. Sloan Fellowship in Executive Development is a one year training

course at MIT for young executives to study in depth the fundamentals that underlie management actions. The course is of 12 months duration with three months spent on a tour of European industrial developments.

Eggleston was nominated by Dr. Robert R. Gilruth, director, Manned Spacecraft Center. NASA headquarters screens the nominees and the Sloan Fellowship Foundation makes the final selection. Only 40 people a year are selected for the program from industry and government.

In 1962, Eggleston joined MSC in the Spacecraft Technology Division where he helped develop the Lunar Excursion Module (LEM) concept. Prior to this, from 1949 through 1951 he worked with research aircraft at Edwards AFB, and from 1951 until he joined MSC he worked in rendezvous, reentry dynamics and space mechanics at the Langley Research Center.

In his current assignment, he is responsible for definition of the space environment for

manned space flight and all scientific experiments carried on manned spacecraft and the scientific training of the astronauts in the conduct of these experiments.

Scholarships To Be Awarded At ARCS Banquet

The first ARCS Foundation scholarships awards banquet will be held at 7:30 p.m., April 27, at the Warwick Hotel in Houston with Col. John H. Glenn Jr. (Ret. USMC) as the guest speaker.

ARCS Foundation (Achievement Rewards for College Students) is the only women's organization of its kind providing scholarships and fellowships for talented and deserving students of science and engineering.

Scholarships totaling nearly \$10,000 will be awarded students from four of Houston's universities.



JOHN M. EGGLESTON